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(21)Application number : 57-125063 (71)Applicant : UBE IND LTD
(22)Date of filing : 20.07.1982 (72)Inventor : MAEHARA NOBUNORI
UTADA NORIBUMI
ODA YASUSHI
ASHITAKA HIDEKAZU
ISHIKAWA HIDEO

(54) PRODUCTION OF REINFORCED POLYBUTADIENE

(57)Abstract:

PURPOSE: To decrease polymer deposition on a polymerization vessel and to make it possible to perform continuous polymerization for a long time, by subjecting 1,3-butadiene first to cis-1,4-polymerization and then to 1,2-polymerization while adding catalytic components in a specified order to an inert organic solvent.

CONSTITUTION: 1,3-Butadiene, a solvent and CS₂ are mixed together; then the water concentration of the mixture is adjusted; after the addition of a halogen- containing organoaluminum compound, the mixture is aged for at least 1min in the absence of a cobalt compound; and then, after the addition of a cobalt compound, the resulting solution is mixed under agitation to polymerize the 1,3- butadiene into cis-1,4- polybutadiene. Then, an organoaluminum compound together with, if necessary, a cobalt compound is added to the above produced polymerization reaction mixture, and the resulting mixture is mixed with agitation to effect 1,2-polymerization. Part of the produced reinforced polybutadiene is separated, and the remainder is distilled to remove high-boiling matter, and a mixture of unreacted butadiene, solvent and CS₂ is recirculated to the initial step.